

## REMARKS

Claims 1-9 are pending in this application. Claims 1 and 8 have been amended. No new matter has been added by way of this amendment. Reconsideration of this Application, in light of the present Amendment and remarks, is respectfully requested.

Claims 1 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over PCT Application WO 97/18784 to *Christon* et al. in view of U.S. Patent No. 6,403,857 to *Gross* et al., while claims 1-3, and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the *Christon* et al. reference in view of U.S. Patent No. 6,403,857 to *Chmielewski* et al., and claims 4-6, and 9 have been rejected as being unpatentable over the these references in view of *Chmielewski* et al. in further view of U.S. Patent Publication 2002/0065363 A1 to *Wang* et al. These several rejections are respectfully traversed.

Claims 1 and 8 have been amended to recite “a water-decomposable and liquid-pervious spun-laced surface layer having a plurality of perforations on the entire area thereof.” Support for this limitation can be found on page 8, lines 9 through 18 of the specification.

PCT Application WO 97/18784 to *Christon* et al. discloses an absorbent article, such as a sanitary napkin, that disperses into fragments which are readily flushable in a normal toilet. According to this reference, the sanitary napkin preferably comprises a liquid pervious topsheet, a backsheet impervious to bodily fluids, an absorbent core positioned between the topsheet and the backsheet, and means for removably attaching the sanitary napkin to a wearer's undergarment (see page 2, lines 28-33). However, this reference fails to teach “a water-

decomposable and liquid-pervious spun-laced surface layer having a plurality of perforations on the entire area thereof,” as set forth in amended independent claims 1 and 8.

U.S. Patent No. 6,403,857 B1 to *Gross et al.* relates to a process for preparing a super absorbent roll which is good for use in disposable absorbent hygiene articles, such as diapers and sanitary napkins, and to the products of the process (see col. 1, lines 11-14). However, this reference fails to cure the deficiency of the *Christon et al.* patent. Specifically, *Gross et al.* fails to disclose “a water-decomposable and liquid-pervious spun-laced surface layer having a plurality of perforations on the entire area thereof,” as set forth in amended independent claims 1 and 8.

U.S. Patent No. 6,068,620 to *Chmielewski* discloses a disposable absorbent article comprising a topsheet, at least a portion of which is liquid pervious, a substantially liquid impervious back sheet and an absorbent core disposed between the top sheet and the back sheet (see col. 2, lines 59-63). However, this reference also fails to cure the deficiency of the *Christon et al.* reference. Specifically, *Chmielewski* fails to disclose “a water-decomposable and liquid-pervious spun-laced surface layer having a plurality of perforations on the entire area thereof,” as set forth in amended independent claims 1 and 8.

U.S. Patent Application Publication No. 2002/0065363 A1 to *Wang et al.* discloses selectively cold-water responsive polymer blend compositions of films and fibers having a wide range of cold-water responsiveness including water dispersible, water disintegratable, water weakendable and water stable (see col. 3, lines 1-5 of paragraph 30). However, this publication also fails to cure the deficiency of the *Christon et al.* publication. Specifically, *Wang et al.* fails to disclose “a water-decomposable and liquid-pervious spun-laced

surface layer having a plurality of perforations on the entire area thereof," as set forth in amended independent claims 1 and 8.

In sum, none of the cited references, neither individually or in combination, disclose "a water-decomposable and liquid-pervious spun-laced surface layer having a plurality of perforations on the entire area thereof." By forming a plurality of perforations on the entire area of the surface layer, the strength of the surface member can be reduced to promote the decomposability upon being disposed of in a flushed toilet. In view of the foregoing, reconsideration and withdrawal of the rejection are respectfully requested.

In view of the patentability of independent claims 1 and 8, for the reasons above, dependent claims 2-7 and 9 are patentable over the prior art.

In view of the foregoing amendments and remarks, this application should be in condition for allowance. However, should the Examiner believe that direct contact with Applicants' attorney would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

Respectfully submitted,

Dated: December 26, 2002



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## **COMPLETE SET OF PENDING CLAIMS**

1. (Amended) A water-decomposable absorbent article comprising a water-decomposable back layer, a water-decomposable and liquid-pervious spun-laced surface layer having a plurality of perforations on an entire area thereof, and a water-decomposable absorbent layer sandwiched between the back layer and the surface layer, wherein;

the absorbent layer is formed of at least one sheet of composite sheet of a water-soluble or water-swellaable polymer layer and a water-decomposable fibrous layer, of which an uppermost layer adjacent to the spun-laced surface layer is the water-decomposable fibrous layer.

2. The water-decomposable absorbent article as set forth in claim 1, wherein the absorbent layer is formed of two or more composite sheets stacked to each other, in each of which the water-decomposable fibrous layer is located to face the side of the surface layer.

3. The water-decomposable absorbent article as set forth in claim 1, wherein the absorbent layer is formed of one of the composite sheet which is folded into two so that constituent layers thereof are in an order of water-decomposable fibrous layer, polymer layer, polymer layer and water-decomposable fibrous layer with the uppermost water-decomposable fibrous layer being adjacent to the surface layer.

4. The water-decomposable absorbent article as set forth in claim 1, wherein the water-soluble or water-swellaable polymer layer is polyvinyl alcohol layer.

5. The water-decomposable absorbent article as set forth in claim 4, wherein the polyvinyl alcohol layer has a basis weight of at least 10 g/m<sup>2</sup>.

6. The water-decomposable absorbent article as set forth in claim 4, wherein the polyvinyl alcohol layer is in the form of a film which is laminated and integrated with the fibrous layer.

7. The water-decomposable absorbent article as set forth in claim 1, wherein an additional absorbent layer that differs from the composite sheet is provided between the composite sheet and the surface layer.

8. (Amended) A water-decomposable absorbent article comprising a water-decomposable back layer, a water-decomposable and liquid-pervious spun-laced surface layer having a plurality of perforations on an entire area thereof, and a water-decomposable absorbent layer sandwiched between the back layer and the surface layer, wherein;

the absorbent layer includes two water-decomposable fibrous layers and a water-soluble or water-swellaable polymer layer sandwiched between the two water-decomposable fibrous layers.

9. The water-decomposable absorbent article as set forth in claim 8, wherein the water-soluble or water-swellaable polymer layer is a film of polyvinyl alcohol.



EXPRESS MAIL CERTIFICATE

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D. Davis  
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PATENT TRADEMARK OFFICE

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Nobuhiro KURATA et al. Confirmation No.: 9174

Serial No.: 09/746,033 Art Unit: 1771

Filed: December 21, 2000 Examiner: SALVATORE, Lynda

For: WATER-DECOMPOSABLE ABSORBENT ARTICLE

**MARK-UP FOR AMENDMENT OF DECEMBER 26, 2002**  
**PURSUANT TO 37 C.F.R. §1.121**

**BOX NON FEE**

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

**IN THE CLAIMS:**

1. (Amended) A water-decomposable absorbent article comprising a water-decomposable back layer, a water-decomposable and liquid-pervious spun-laced surface layer having a plurality of perforations on an entire area thereof, and a water-decomposable absorbent layer sandwiched between the back layer and the surface layer, wherein;

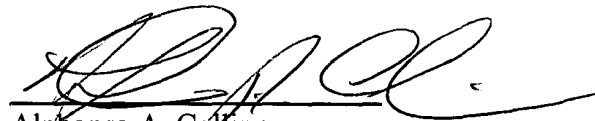
the absorbent layer is formed of at least one sheet of composite sheet of a water-soluble or water-swellaible polymer layer and a water-decomposable fibrous layer, of which [the] an uppermost layer adjacent to the spun-laced surface layer is the water-decomposable fibrous layer.

8. (Amended) A water-decomposable absorbent article comprising a water-decomposable back layer, a water-decomposable and liquid-pervious spun-laced surface layer having a plurality of perforations on an entire area thereof, and a water-decomposable absorbent layer sandwiched between the back layer and the surface layer, wherein;

the absorbent layer includes two water-decomposable fibrous layers and a water-soluble or water-swellaible polymer layer sandwiched between the two water-decomposable fibrous layers.

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Dated: December 26, 2002



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